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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,076	10/24/2003	Ronghua Wei	SWRI-2890-04	3382
23770	7590	05/15/2007		
PAULA D. MORRIS THE MORRIS LAW FIRM, P.C. 10260 WESTHEIMER, SUITE 360 HOUSTON, TX 77042-3110			EXAMINER LAVILLA, MICHAEL E	
			ART UNIT 1775	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/693,076

Applicant(s)

WEI ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007 and 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) 7-10 and 12-22, 69-72, and 74-84 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,11,23,26-28,31,32,35-40,45,48,49,51-54,56,57,98-100 and 102-108 is/are rejected.
- 7) ☒ Claim(s) 43, 44, 60-67,73, and 85-96 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 1,4-23,26-28,31,32,35-40,43-45,48,49,51-54,56,57,60-67,69-96,98-100 and 102-108.

DETAILED ACTION

Election/Restrictions

1. Newly amended claims 69-72 and 74-84 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Applicant's elected species related to "amorphous carbon coating." Claims 69-72 and 74-84 do not appear to relate to carbon coatings. Some of these claims may relate to coatings having carbon, but applicant has not described these as carbon coatings which species is currently under examination.
2. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 69-72 and 74-84 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

3. Claims 64, 85, 89, and 93 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Regarding Claim 64, the claimed layer thickness is broader than that of previous Claim 45, rendering Claim 64 improperly further broadening.

Regarding Claim 65, it is not properly further limiting of Claim 45 since it merely specifies the same layer thickness requirement already set forth in Claim 45.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

5. A person shall be entitled to a patent unless –

6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4-6, 11, 23, 26-28, 31, 32, 35-40, 45, 48, 49, 51-54, 56, 57, 98-100, and 102-108 are rejected under 35 U.S.C. 102(b) as being anticipated by Slutz et al. USPN 5,387,447. Slutz teaches a tubular structure having an interior surface formed of carbon film that is from 1 to 2000 microns in thickness of a high degree of uniformity, wherein the tube achieves the claimed aspect ratios. See Slutz (col. 3, line 53 through col. 4, line 61; col. 5, lines 35-51; and col. 6, line 40 through col. 8, line 3). Applicant's specification does not teach that the claimed hardness levels require special manufacturing conditions. As such, the claimed hardness levels can be presumed to be inherently present in material characterized as similar to that under examination, namely amorphous carbon coating, absent a showing otherwise. With respect to those claims that specify that the coating is amorphous carbon coating, they may be presumed to encompass the CVD diamond coating of Slutz since both are formed by similar starting materials, namely hydrocarbons, and since artificial diamond coatings are frequently referred to as amorphous carbon coatings.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

10. Determining the scope and contents of the prior art.
11. Ascertaining the differences between the prior art and the claims at issue.
12. Resolving the level of ordinary skill in the pertinent art.
13. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 37, 54, and 105 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bokros USPN 4,300,244 in view of Bokros USPN 4,169,477.

Bokros '244 teaches coating the interior of a tubular fabric sleeve with vapor deposited carbon coating. Bokros '244 does not exemplify a sleeve of the claimed aspect ratio. See Bokros '244 (col. 5, lines 22-57). Bokros '477 teaches particular sleeve structures to be carbon coated on an interior surface, wherein the aspect ratio is 20/5.5. See Bokros '477 (col. 2, lines 1-32; and col. 3, lines 27-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate a sleeve with the coatings of Bokros '244 with a sleeve of the structure of Bokros '477, as Bokros '244 suggests that effective

sleeve structures are provided by those described in Bokros '477. Bokros '244 recommends a range of effective carbon layer thicknesses, including the claimed range of more than 0.5 microns. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate a coated sleeve with claimed coating thicknesses as Bokros '244 suggests that effective articles may be made in this manner. Bokros in view of Bokros may not exemplify the claimed aspect ratio, but the difference between the claimed ratio and that disclosed is 20/5.5 and 6, which is not significant. Such minor differences are prima facie obvious. See MPEP 2144.04. Applicant's specification does not teach that the claimed hardness levels require special manufacturing conditions. As such, the claimed hardness levels can be presumed to be inherently present in material characterized as similar to that under examination, namely amorphous carbon coating, absent a showing otherwise.

Response to Amendment

15. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 19 June 2006. Rejection is withdrawn, but claims have been withdrawn from examination in view of the amendments.
16. In view of applicant's amendments and arguments, applicant traverses the section 103 rejection over Beldi of the Office Action mailed on 19 June 2006. Rejection is withdrawn.

17. In view of applicant's amendments and arguments, applicant traverses the section 103 rejection over Bokros of the Office Action mailed on 19 June 2006. In view of reconsideration, certain claims have been rejected for the reasons set forth above.
18. Certain claims previously indicated as being allowable have been rejected as set forth above for the reasons given above.

Allowable Subject Matter

19. Claims 43, 44, 60-63, 66, 67, 73, 86-88, 90-92, and 94-96 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
21. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
13 May 2007



MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER